

CLAIM LISTING:

This listing of claims replaces all prior versions and listings of claims in the application.

Please cancel claim 18 without prejudice.

IN THE CLAIMS

1. (Previously presented) A method for identifying and configuring a system, comprising:

reading values of identification codes from each of a first plurality of devices of a first system;

generating a first system identifier value that identifies the first system as a function of the read values;

wherein the first plurality of devices is arranged and coupled in a scan chain, and the function used in generating the first system identifier value is further a function of respective positions of the first plurality of devices in a scan chain;

storing the first system identifier value in association with respective configuration data sets for the first plurality of devices;

reading values of identification codes from each of a second plurality of devices coupled in a scan chain in a target system;

generating a target system identifier value that identifies the target system as a function of the values read from the second plurality of devices and respective positions of the second plurality of devices in the scan chain;

comparing the stored first system identifier value to the target system identifier value;

configuring the second plurality of devices in the target system with the respective configuration data sets in response to the stored first system identifier value matching the target system identifier value; and

halting configuring of the second plurality of devices in the target system in response to the stored first system identifier value not matching the target system identifier value.

2. (Previously presented) The method of claim 1, wherein the step of reading values

from the first plurality of devices comprises:

reading the value of a first register in each of the first plurality of devices,  
wherein the state of each first register is a non-programmable value.

3. (Previously presented) The method of claim 2, wherein the step of reading values from the first plurality of devices further comprises:

reading the value of a second register in each of the first plurality of devices,  
wherein each second register is user-programmable.

4. (Previously presented) The method of claim 1, wherein the step of reading values from the first plurality of devices comprises:

inputting a control code to each of the first plurality of devices

outputting the values of the identification codes serially from at least one of the first plurality of devices in response to the control code.

5. (Previously presented) The method of claim 1, wherein the step of reading values from the first plurality of devices further comprises:

reading values from registers in the first plurality of devices, wherein each register is user-programmable.

6. (Previously presented) The method of claim 5, wherein at least one of the first plurality of devices is a programmable logic device, the method further comprising:

storing in the register of the at least one programmable logic device a checksum value derived from configuration data used in configuring the at least one programmable logic device.

7. (Original) The method of claim 6, wherein the generating step includes concatenating the values.

8. (Canceled)

9. (Original)            The method of claim 1, wherein the generating step includes concatenating the values.

10. (Canceled)

11. (Previously presented) The method of claim 1, wherein the step of reading values from the first plurality of devices comprises:

inputting a control code to each of the first plurality of devices;

outputting the values of the identification codes serially from a boundary-scan register in at least one of the first plurality of devices in response to the control code.

12. (Original)            The method of claim 11, wherein the control code is a boundary-scan SAMPLE instruction.

13. (Original)            The method of claim 11, wherein the control code is a boundary-scan EXTEST instruction.

14. (Original)            The method of claim 11, wherein the boundary-scan register is one of an IDCODE register and a USERCODE register.

15. (Previously presented) The method of claim 1, wherein the first plurality of devices are programmable logic devices and the values of identification codes from each of the first plurality of programmable logic devices is a configuration state of the programmable logic device.

16. (Previously presented) The method of claim 15, wherein the generating of the first system identifier value comprises:

generating checksum values from each of the configuration states; and

generating the system identifier as a function of the checksum values.

17. (Previously presented) The method of claim 1, wherein the system includes a

plurality of non-volatile memories coupled to the first plurality of devices, the devices are boundary-scan accessible, and the reading of values from the first plurality of devices includes reading the values of the identification codes from the plurality of non-volatile memories.

18. (Cancelled)

19. (Previously presented) An apparatus for identifying and configuring a system, comprising:

- means for reading values of identification codes from each of a first plurality of devices of a first system;

- means for generating a first system identifier value as a function of the values of the identifications codes from the first plurality of devices;

- wherein the first plurality of devices is arranged and coupled in a scan chain, and the function used in generating the first system identifier value is further a function of respective positions of the first plurality of devices in a scan chain;

- means for storing the first system identifier value in association with respective configuration data sets for the first plurality of devices;

- means for reading values of identification codes from each of a second plurality of devices coupled in a scan chain in a target system;

- means for generating a target system identifier value that identifies the target system as a function of the values read from the second plurality of devices and respective positions of the second plurality of devices in the scan chain;

- means for comparing the stored first system identifier value to the target system identifier value;

- means for configuring the second plurality of devices in the target system with the respective configuration data sets in response to the stored first system identifier value matching the target system identifier value; and

- means for halting configuring of the second plurality of devices in the target system in response to the stored first system identifier value not matching the target system identifier value.

20. (Previously presented) An arrangement for identifying and configuring a system, comprising:

- a software tool hosted on a data processing arrangement; and

- a system interface coupled to the tool and to a first system;

wherein the tool is configured to read values of identification codes from each of a first plurality of devices of the system via the system interface and generate a first system identifier value as a function of the values of the identifications codes from the first plurality of devices;

wherein the first plurality of devices is arranged and coupled in a scan chain, and the function used in generating the first system identifier value is further a function of respective positions of the first plurality of devices in a scan chain;

wherein the tool is further configured to store the first system identifier value in association with respective configuration data sets for the first plurality of devices;

means for reading values of identification codes from each of a second plurality of devices coupled in a scan chain in a target system;

means for generating a target system identifier value that identifies the target system as a function of the values read from the second plurality of devices and respective positions of the second plurality of devices in the scan chain;

means for comparing the stored first system identifier value to the target system identifier value;

means for configuring the second plurality of devices in the target system with the respective configuration data sets in response to the stored first system identifier value matching the target system identifier value; and

means for halting configuring of the second plurality of devices in the target system in response to the stored first system identifier value not matching the target system identifier value.